

Claim Amendments

Claims 1-44 (Canceled).

45. (New) A repeater for a wireless network comprising:

a first transceiver operable to receive data transmitted on a first channel of a first frequency band;

a second transceiver coupled to the first transceiver, the second transceiver operable to transmit data on a second channel of the first frequency band; and

a third transceiver coupled to the first and second transceivers, the third transceiver operable to transmit and receive data in a second frequency band.

46. (New) The repeater of claim 45 wherein the first, second and third transceivers each include a transmitter and a receiver.

47. (New) The repeater of claim 45 wherein the second transceiver is further operable to receive data on the second channel and the first transceiver is further operable to transmit data on the first channel, such that the repeater is operable to function in a bi-directional manner.

48. (New) The repeater of claim 46 wherein the transmitters and receivers of the first and second transceivers are frequency programmable.

49. (New) The repeater of claim 46 wherein the transmitters and receivers of the first, second, and third transceivers are frequency programmable.

50. (New) The repeater of claim 45 wherein the first frequency band is a 5GHz frequency band and the second frequency band is a 2.4GHz frequency band.

51. (New) A repeater for a wireless network comprising:
an upstream transceiver operable to receive data transmitted on a first channel of a first frequency band;
a downstream transceiver coupled to the upstream transceiver, the downstream transceiver operable to transmit data in the first frequency band; and
an additional transceiver coupled to the upstream and downstream transceivers, the additional transceiver operable to transmit data to, and receive data from, a destination device, the additional transceiver operating in a second frequency band.

52. (New) The repeater of claim 51 wherein the transmitters and receivers of the upstream and downstream transceivers are frequency programmable.

53. (New) The repeater of claim 51 wherein the downstream transceiver transmits data on a second channel of the first frequency band.

54. (New) The repeater of claim 51 wherein the first frequency band is a 5GHz frequency band and the second frequency band is a 2.4GHz frequency band.

55. (New) A wireless local area network (WLAN) comprising:
a plurality of repeaters, each repeater having an upstream transceiver coupled to a downstream transceiver, the upstream and downstream transceivers operating in a first frequency band, the upstream transceiver being operable to receive data on a first channel, and the downstream transceiver being operable to

transmit data on a different channel to a next repeater, at least one repeater of the plurality of repeaters including an additional transceiver operating in a second frequency band;

at least one destination device operable to receive data in the second frequency band;

a source device that transmits data to the at least one destination device across a chain of the repeaters that includes the at least one repeater.

56. (New) The WLAN of claim 55 wherein the at least one destination device comprises a media receiver connected to a display device.

57. (New) The WLAN of claim 55 wherein the source device operates in the first frequency band.

58. (New) The WLAN of claim 55 wherein either the upstream transceiver or the downstream transceiver operates at any given time.

59. (New) The WLAN of claim 55 wherein the source device transmits data in the second frequency band.

60. (New) The WLAN of claim 56 wherein the transmitters and receivers of the upstream and downstream transceivers are frequency programmable, and further wherein each of the repeaters includes a computing means for programming the frequency channels of the upstream and downstream transceivers.

61. (New) The WLAN of claim 55 wherein the first frequency band is a 5GHz frequency band and the second frequency band is a 2.4GHz frequency band.

62. (New) A wireless network comprising:

- a source device that transmits data on a first frequency channel;
- a plurality of repeaters arranged in a tree topology, each of the repeaters having an upstream transceiver to receive the data, a downstream transmitter to send the data across the wireless network, and an additional transceiver, the upstream and downstream transceivers operating on different frequency channels in a first frequency band, the additional transceiver operating to transmit and receive data in a second frequency band; and
- a destination device that receives the data.

63. (New) The wireless network of claim 62 wherein two or more of the repeaters are configured to receive the data from the source device in the first frequency band.

64. (New) The wireless network of claim 62 wherein one of the plurality of repeaters re-transmits the data directly to two or more of the repeaters.

65. (New) The wireless network of claim 62 wherein the source device is coupled to a broadband data network.

66. (New) The wireless network of claim 62 wherein either the upstream or downstream transceiver operates at any given time.

67. (New) The wireless network of claim 62 wherein the destination device receives the data in the second frequency band from the additional transceiver.

68. (New) The wireless network of claim 62 wherein the upstream and downstream transceivers each includes a transmitter and a receiver.

69. (New) The wireless network of claim 62 wherein each of the repeaters is configurable to operate in a bi-directional manner.

70. (New) The wireless network of claim 68 wherein the transmitters and receivers of the upstream and downstream transceivers are frequency programmable.

71. (New) The wireless network of claim 70 wherein each of the repeaters includes a computing means for programming the frequency channels of the upstream and downstream transceivers.

72. (New) The wireless network of claim 62 wherein the first frequency band is a 5GHz frequency band and the second frequency band is a 2.4GHz frequency band.